

REMARKS

In the Final Office Action, the Examiner rejected claims 1-36. However, for at least the reasons set forth below, Applicants respectfully submit that all of pending claims 1-36 are allowable in their present form. By the present Response, Applicants amend claim 30 to correct a clerical error. Upon entry of the amendment, claims 1-36 will remain pending in the present patent application. Applicants respectfully request reconsideration of the above-referenced application in view of the following remarks.

Examiner Interview Summary

Applicants thank the Examiner for his participation in a telephonic interview with the undersigned representative on June 20, 2006. In this interview, the claims of the present patent application and the prior art of record were generally discussed. Particularly, during the interview, Applicants' representative and the Examiner discussed the teachings of the Dowling et al. reference relied on by the Examiner in the Office Action and certain aspects of the claims that distinguish the present claims from those teachings, including various aspects set forth below. The Examiner agreed that the teachings of the Dowling et al. reference alone cannot support the rejection of the pending claims set forth in the Office Action. The Examiner stated that he would need to conduct a new search of the prior art, and agreed that any new Office Action resulting from the new search would be non-final to provide Applicants a fair and reasonable opportunity to respond to any new rejection. For the reasons discussed in the interview and generally reproduced below, independent claims 1, 17, 27, 30, and 34, and their respective dependent claims, are believed allowable over the art of record and in condition for allowance.

Rejections Under 35 U.S.C. § 103

In the Final Office Action, the Examiner rejected claims 1-36 under 35 U.S.C. § 103(a) as unpatentable over Dowling et al. (U.S. Patent No. 6,236,947). Applicants respectfully traverse this rejection.

Legal Precedent

The burden of establishing a *prima facie* case of obviousness falls on the Examiner. *Ex parte Wolters and Kuypers*, 214 U.S.P.Q. 735 (PTO Bd. App. 1979). Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching or suggestion supporting the combination. *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984). Accordingly, to establish a *prima facie* case, the Examiner must not only show that the combination includes *all* of the claimed elements, but also a convincing line of reason as to why one of ordinary skill in the art would have found the claimed invention to have been obvious in light of the teachings of the references. *Ex parte Clapp*, 227 U.S.P.Q. 972 (B.P.A.I. 1985). When prior art references require a selected combination to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gained from the invention itself, i.e., something in the prior art as a whole must suggest the desirability, and thus the obviousness, of making the combination. *Uniroyal Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 U.S.P.Q.2d 1434 (Fed. Cir. 1988).

Omitted Features of Independent Claim 1, 17, 27, 30, and 34

Turning now to the present claims, Applicants respectfully note that the Dowling et al. reference fails to disclose each element of independent claims 1, 17, 27, 30, and 34. For instance, independent claim 1 recites a processor “operable to establish motor output power based on ... measurements taken from the motor while coupled to a load, *wherein the measurements taken from the motor while in a coupled state are the only measurements taken from the motor to establish the motor output power*” (emphasis added). Independent claim 17 recites “establishing the *efficiency* of the multiphase motor ... based on measurements taken from the motor while coupled to a load, *wherein the measurements taken from the motor while in a coupled state are the only measurements taken from the motor to establish the efficiency of the motor*” (emphasis added). Independent claims 27, 30, and 34, similarly recite establishing various motor parameters, such as efficiency, output

power, and electrical parameters, based on measurements taken from the motor in a coupled state, and that these measurements are the only motor measurements taken from the motor to establish the respective motor parameter. Because the Dowling et al. reference fails to disclose such elements, the cited reference fails to support a *prima facie* case of obviousness with respect to independent claims 1, 17, 27, 30, and 34.

As will be appreciated, the Dowling et al. reference is generally directed to determining the condition of a motor during operation. Col. 1, lines 9-13. However, as noted by the Examiner, Dowling et al. also disclose a method for determining the output power and efficiency of a motor. Col. 24, line 48 – col. 25, line 62; *see* Office Action mailed April 21, 2006, page 3. Particularly, the Dowling et al. method for determining output power and motor efficiency includes calculating individual phase resistances by solving a mathematical system of resistances “for the uncoupled *and* coupled cases” (emphasis added). Col. 24, lines 50-54. The process disclosed by Dowling et al. further requires calculating the *uncoupled* loss of the motor based on *uncoupled values* of current (I) and resistance (R). Col. 24, lines 58-67. This reference also notes that “[t]he values of V and I used in the above calculations correspond to the operating mode of the motor, i.e., *uncoupled* or loaded” (emphasis added). Output power and the efficiency of the motor may then be derived from these measurements taken from the motor in both coupled and uncoupled states. Col. 25, lines 52-62.

From at least these passages of the cited reference, it is evident that the Dowling et al. reference teaches, at best, a process for determining motor output power and efficiency based on measurements taken from the motor during *both coupled and uncoupled states*. Conversely, the present independent claims generally recite systems, methods, and computer program products that facilitate establishing motor parameters, such as output power and efficiency, in which the measurements taken from the motor to establish output power or efficiency may be solely those measured from the motor while coupled to a load. In other words, the present disclosure provides a technique for

establishing output power and efficiency of a motor while coupled to a load without requiring uncoupled testing of the motor. This is directly contrary to the teachings of Dowling et al., in which uncoupled testing is necessary to determine output power and efficiency of a motor.

In the Office Action, the Examiner again referred to col. 24, line 48 – col. 25, line 62 of the Dowling et al. reference and responded to Applicants' previous remarks by suggesting that "if Dowling et al. would only calculate the motor output power, there is no need to take into account the uncoupled loss...." Office Action mailed April 21, 2006, page 6. However, as discussed in the interview summarized above, the relevant portion of the passage of the Dowling et al. reference relied upon by the Examiner explicitly states that *motor output power is calculated based on the uncoupled loss*, which directly refutes the Examiner's suggestion to the contrary. See col. 25, lines 52-53 (step 180). Thus, this passage of the reference does not obviate the deficiencies of the Dowling et al. reference noted above.

As such, Applicants respectfully submit that the Dowling et al. reference fails to disclose a processor "operable to establish motor output power based on ... measurements taken from the motor while coupled to a load, wherein the measurements taken from the motor while in a coupled state are the only measurements taken from the motor to establish the motor output power," as recited by independent claim 1. Further, Applicants respectfully submit that the Dowling et al. reference cannot be reasonably considered to disclose establishing the other parameters set forth in independent claims 17, 27, 30, and 34, in which the measurements from the motor used in establishing the parameter may simply be measurements taken from the motor only while in a coupled state. Because the Dowling et al. reference fails to disclose each and every element, the cited reference cannot establish a *prima facie* case of obviousness in regard to the present claims. Consequently, independent claims 1, 17, 27, 30, and 34, as well as their dependent claims, are patentable over the Dowling et al. reference and are believed to be in condition for allowance.


For at least these reasons, Applicants respectfully request withdrawal of the rejections under 35 U.S.C. § 103 and allowance of claims 1-36.

Conclusion

In view of the remarks set forth above, Applicants respectfully request allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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